We claim:

1. A control system for controlling operation of an engine-driven, electrical generator which generates AC power and AC voltage for a load, the engine having an adjustable engine speed; the AC power having a magnitude and a power factor; and the AC voltage having a magnitude and a frequency, comprising:

a generator control operatively connected to the engine for controlling operation thereof and operatively connected to the generator for controlling the AC power generated thereby; and

a communications link for operatively connected the generator control to a network.

2. The control system of claim 1 further comprising a user interface operatively connected to the network, the user interface allowing a user to communicate with generator control so as to set predetermined operating parameters of the engine and the generator.

3. The control system of claim 1 further comprising a transfer switch having a first input connectable to a utility source for providing AC power, a second input operatively connected to the generator, and an output connectable to a load, the transfer switch is selectively movable between a first position connecting the utility source to the load and a second position connecting the generator to the load.

4. The control system of claim 3 wherein the transfer switch is operatively connected to the generator control such that the generator control controls movement of the transfer switch between the first and second positions.

5. The control system of claim 1 wherein the load is operatively connected to a utility source which provides AC power having a magnitude and power factor and AC voltage having a magnitude and a frequency thereto and wherein the control system includes a synchronizer for determining the magnitude and frequency of the AC voltage

of the utility source and the magnitude and frequency of the AC voltage generated by the generator.

6. The control system of claim 5 wherein the synchronizer is operatively connected to the generator control, the generator control varying the magnitude and frequency of the AC voltage generated by the generator to match the magnitude and frequency of the AC voltage by the utility source.

7. The control system of claim 6 further comprising a switch operatively connected to the generator control and being movable between a first closed position for interconnecting the generator and the load and a second open position, the generator control moving the switch to the closed position in response to the magnitude and frequency of the AC voltage generated by the generator being generally equal to the magnitude and frequency of the AC voltage provided by the utility source.

8. The control system of claim 1 wherein the generator control includes a digital governor connectable to the engine for controlling the engine speed of the engine.

9. The control system of claim 8 wherein the digital governor includes a throttle valve, the throttle valve movable between a first open position wherein the engine generates maximum AC power and a second closed position wherein the engine generates minimum AC power.

10. The control system of claim 1 wherein the generator control includes a volt-ampere-reactive (VAR) control for varying the power factor of the AC power generated by the generator to a predetermined value.

11. The control system of claim 1 wherein the generator control includes a voltage regulator for controlling the magnitude of the AC voltage generated by the generator.

12. The control system of claim 1 further comprising an alarm system connectable to the engine for monitoring various engine parameters, the alarm system communicating with the generator control and generating an alarm signal in response to a predetermined condition on the engine.

13. A generator structure for generating AC power for a load, comprising:

a generator connectable to the load, the generator generating AC power having a magnitude and a power factor and AC voltage having a magnitude and a frequency;

an engine operatively connected to the generator for driving the generator, the engine having an adjustable engine speed;

a generator control operatively connected to the engine for controlling operation thereof and operatively connected to the generator for controlling the AC power generated thereby; and

a communications link for operatively connecting the generator control to a network.

14. The generator structure of claim 13 further comprising a transfer switch having a first input connectable to a utility source for providing AC power, a second input operatively connected to the generator, and an output connectable to the load, the transfer switch selectively movable between a first position for connecting the utility source to the load and a second position for connecting the generator to the load.

15. The generator structure of claim 14 wherein the transfer switch is operatively connected to the generator control such that the generator control controls movement of the transfer switch between the first and second positions in response to the AC power supplied by the utility source.

16. The generator structure of claim 13 wherein the load is a utility source which provides AC power having a magnitude and power factor and AC voltage having a magnitude and frequency, and wherein the generator control includes a synchronizer for monitoring the magnitude and frequency of the AC voltage provided by the utility source and the magnitude and frequency of the AC voltage generated by the generator.

17. The generator structure of claim 16 wherein the generator control varies the magnitude and frequency of the AC voltage generated by the generator to match the magnitude and frequency of the AC voltage of the utility source.

18. The generator structure of claim 17 wherein the generator control includes a volt-ampere-reactive (VAR) control for varying the power factor of the AC power generated by the generator.

19. The generator structure of claim 17 further comprising a switch operatively connected to the generator control and being movable between a first closed position wherein the generator is connected to the utility source and a second open position, the generator control moving the switch to the closed position in response to the magnitude and frequency of the AC voltage generated by the generator being generally equal to the magnitude and frequency of the AC voltage provided by the utility source.

20. The generator structure of claim 13 wherein the generator control includes a digital governor connectable to the engine for controlling the engine speed of the engine.

21. The generator structure of claim 20 wherein the digital governor includes a throttle valve, the throttle valve movable between a first open position wherein the engine generates maximum AC power and second closed position wherein the engine generates minimum AC power.

22. The generator structure of claim 13 wherein the generator control includes a voltage regulator for regulating the magnitude of the AC voltage generated by the generator.

23. A method of providing AC power to a load comprising the steps of:

setting various operating parameters for a generator structure and transmitting the same to the generator structure over a network; and

generating AC power and AC voltage with a generator structure in response to the various operating parameters set, the AC power having a magnitude and a power factor and the AC voltage having a magnitude and a frequency.

24. The method of claim 23 wherein the load is a utility source which provides AC power having a magnitude and a power factor and an AC voltage having a magnitude and a frequency and wherein the method includes the additional step of monitoring the magnitude and the frequency of the AC voltage provided by the utility source and the magnitude and the frequency of the AC voltage generated by the generator structure.

25. The method of claim 24 comprising the additional step of varying the magnitude and the frequency of the AC voltage generated by the generator structure to match the magnitude and the frequency of the AC voltage provided by the utility source.

26. The method of claim 25 comprising the additional step of interconnecting the generator structure to the utility source in response to the magnitude and the frequency of the AC voltage generated by the generator structure being generally equal to the magnitude and the frequency of the AC voltage provided by the utility source.

27. The method of claim 26 comprising the additional step of varying the power factor of the AC power generated by the generator structure to a predetermined value.

28. The method of claim 23 comprising the additional step of adjusting the magnitude of the AC voltage generated by the generator structure to a user selected magnitude.